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EXAMINER	
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ART UNIT	PAPER NUMBER
1654	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/584,874	BENATTI ET AL.	
	Examiner	Art Unit	
	RONALD T. NIEBAUER	1654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 July 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *15 and 17-28* is/are pending in the application.

4a) Of the above claim(s) *19-22 and 24-28* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *15,17-18,23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/14/09 has been entered.

Applicants arguments filed 7/14/09 are acknowledged and have been fully considered.

Previously (3/12/08), Applicants elected with traverse Group I (claims 15-18,23) and the species where R is H (see claim 15).

Claims 1-14,16 have been cancelled. The elected species was found to be obvious based on the prior art.

Claims 19-22,24-28 are to non-elected groups.

Claims 19-22,24-28 remain withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 3/12/08.

Claims 15,17-18,23 are under consideration.

Claim Rejections - 35 USC § 103

Claims were rejected previously under 103 using the references cited below. The rejection is maintained.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 15,17-18,23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson et al. (US 5,464,825; cited with IDS 6/8/07) and McMurry (Organic Chemistry 4th edition 1996, page 825; first cited with office action 6/10/08).

Anderson teach methods for increasing glutathione (GSH) levels or levels of glutathione equivalents (column 3 lines 22-23). Anderson specifically recites N-acyl glutathiones as a type of glutathione derivative (column 3 line 24). Anderson teaches that the acyl group can contain 1 to

9 carbon atoms and is preferably 1 to 4 carbon atoms, for example propyl (column 3 lines 33-37). Anderson teach that acylated esters are de-esterified in the cell (column 3 line 29,67). Anderson teach that elevated GSH levels are desired in the treatment of viral infections (column 3 lines 11-18).

Anderson specifically teach compounds identified as N-acetyl GSH monoesters (column 4 lines line 10-30). Anderson specifically teach that the R1 is preferably 1 to 3 carbons and can be propyl (column 4 line 44-48). Anderson teach that the compounds are hydrolyzed (column 4 line 21) to form N-acyl GSH which is the de-esterified compound. Anderson teach pharmaceuticals of such compounds (column 4 lines 30-32). Anderson does not expressly show the reaction scheme of the hydrolysis reaction. McMurry (bottom of page 825) teach that esters are hydrolyzed to form carboxylic acids. McMurry is cited to show that de-esterification (by hydrolysis) results in a carboxylic acid product. In particular the N-acyl GSH recited by Anderson (column 4 line 21) includes a carboxylic acid not an ester.

Neither of the references expressly teach the compound of the instant invention.

Anderson specifically teach compounds identified as N-acetyl GSH monoesters (column 4 lines line 10-30). Anderson specifically teach that the R1 is hydrocarbon with preferably 1 to 3 carbons and can be propyl (column 4 line 44-48). One would recognize that R1 being hydrocarbon with preferably 1 to 3 carbons represents a finite number of possible compounds. For example R1 can be methyl, ethyl, or propyl. When R1 is propyl and the compound is de-esterified (column 3 line 29,67) or hydrolyzed (column 4 line 21) as described by Anderson the

resulting product is a carboxylic acid that is identical to the elected species of claim 15 of the instant invention where R is H (the elected species). Thus the limitations of claims 15 are met.

In other words, the disclosure of 'N-acyl GSH' (column 4 line 21) includes various compounds that have been hydrolyzed. Since Anderson teach such compounds as pharmaceuticals (column 4 line 30-32), teach carriers (column 5 lines 23-30) and teach applications for treatment of viral infections (column 2 line 11-18) the limitations of claims 17-18,23 are met.

It has been recently held that "obvious to try" may be an appropriate test under 103 KSR v. Teleflex, 550 U.S. ___, 82 USPQ2d 1385, 1389 (2007). The Supreme Court stated in *KSR*

> When there is motivation
>
> "to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. In that instance the fact that a combination was obvious to try might show that it was obvious under § 103." *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, ___, 82 USPQ2d 1385, 1397 (2007).

In the instant case, the claims would have been obvious because 'a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product nor of innovation but of ordinary skill and common sense'. In particular, Anderson teach a finite number of compounds to be used (column 4 line 10-30). Further, Anderson specifically teach R1 values and teach that the R1 is hydrocarbon with preferably 1 to 3 carbons and can be propyl (column 4 line 44-48). One would recognize that the compound with R1 being hydrocarbon with preferably 1 to 3 carbons represents a finite number of possible compounds. Further, such compounds are described as

being de-esterified and hydrolyzed. From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole was *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references.

Response to Arguments 103 rejection

Applicants compare the prior art ('825 patent which is also referred to as Anderson) and the instant invention and argue that there are differences in structure. Applicants argue that the prior art ('825 patent) discourages and leads a person away from the presently claimed invention particularly at what applicants term positions 1,2, and 3. Applicants argue that the invention has a carboxylic residue while the art teach an ester (positions 2 and 2' of applicants nomenclature). Applicants argue that the invention has a propyl group while the art teach numerous residues (position 3 and 3'). Applicants argue that the invention has a hydrogen or acetyl while the art teach hydrogen (position 1 and 1').

Applicants argue that the prior art is directed to increasing intracellular levels of GSH and GSH equivalents. Applicants restate sections of the prior art and state that intact GSH is not delivered into the cell. Applicants argue that minor changes in structure can result in changes and applicants discuss example 1 of the prior art. Applicants argue that is could not have been predicted that certain compounds would reach the cells.

Applicants argue that the instant invention is unexpected and in direct contrast to the teachings of '825. Applicants state that the sole example in '825 is for an acetyl group and carbon length apparently does not effect compound activity. Applicants argue that the '825 patent teach the need for the monoester. Applicants argue that the acid form does not work.

Applicants argue that the modification suggested by the examiner would not provide a reasonable expectation of increasing intracellular GSH levels. Applicants state that the compounds of the instant invention are entirely different compounds.

Applicants argue that the applicants have shown that an acetyl group is inactive and other lengths are of low activity or are toxic.

Applicant's arguments filed 7/14/09 have been fully considered but they are not persuasive.

Although Applicants compare the prior art and the instant invention and argue that there are differences in structure, the prior art obviate the instant structure. Although Applicants argue that the invention has a carboxylic residue while the art teach an ester (positions 2 and 2' of applicants nomenclature), Anderson teach that the compounds are hydrolyzed (column 4 line 21) to form N-acyl GSH which is the de-esterified compound. In other words, the disclosure of 'N-acyl GSH' (column 4 line 21) includes various compounds that have been hydrolyzed. McMurry (bottom of page 825) teach that esters are hydrolyzed to form carboxylic acids. McMurry is cited to show that de-esterification (by hydrolysis) results in a carboxylic acid product. In particular the N-acyl GSH recited by Anderson (column 4 line 21) includes a carboxylic acid not an ester. Thus Andersons disclosure of 'N-acyl GSH' (column 4 line 21) and teachings of de-esterification (column 3 line 29,67) results in compounds which meet the claim limitations with regards to a carboxylic residue. Although Applicants argue that the invention has a propyl group while the art teach numerous residues (position 3 and 3'), Anderson specifically teach that the R1 is hydrocarbon with preferably 1 to 3 carbons and can be propyl (column 4 line 44-48). One

would recognize that R1 being hydrocarbon with preferably 1 to 3 carbons represents a finite number of possible compounds. For example R1 can be methyl, ethyl, or propyl. It is noted that the instant rejection is not a 102 rejection, but is a 103 rejection. In the instant case, Anderson expressly suggest (i.e. 'preferably 1 to 3 carbon atoms' column 4 lines 44-48) propyl. Although Applicants argue that the invention has a hydrogen or acetyl while the art teach hydrogen (position 1 and 1'), applicants argument is unclear. Claim 1 recites that R can be H. Since the art teach that R is H the claim limitation is met. Section 2132.01 of the MPEP states that a species will anticipate a genus. Although this is a 103 situation, the claim limitation is met. Further, previously (3/12/08), Applicants elected the species where R is H (see claim 15). Since Anderson specifically teach R is H the claim limitations are met. Although applicants argue that the prior art lead away, Section 2123 II of the MPEP expressly states that alternative embodiments are prior art and state that a composition does not become patentable because it has been described as somewhat inferior. In column 4 line 21 Anderson teach N-acyl GSH and then goes on to state that pharmaceutically acceptable salts of the above compounds, which include N-acyl GSH, are within the scope of the present invention (column 4 lines 30-32). Thus Anderson expressly teach that the N-acyl GSH compounds and salts thereof are within the scope of the invention.

Although Applicants argue that the prior art is directed to increasing intracellular levels of GSH and GSH equivalents, it is noted that the instant claims are drawn to compounds. The claims do not recite any information with respect to increasing any levels of any component or any other intended use. As discussed above, the structural limitations of the claims are met. Further, if the prior art structure is capable of performing the intended use, then it meets the claim. Section 2123 II of the MPEP expressly states that alternative embodiments are prior art. In

column 4 line 21 Anderson teach N-acyl GSH and then goes on to state that pharmaceutically acceptable salts of the above compounds, which include N-acyl GSH, are within the scope of the present invention (column 4 lines 30-32). Thus Anderson expressly teach that the N-acyl GSH compounds and salts thereof are within the scope of the invention.

Further, section 2144.09 of the MPEP (last paragraph) states:

'However, a claimed compound may be obvious because it was suggested by, or structurally similar to, a prior art compound even though a particular benefit of the claimed compound asserted by patentee is not expressly disclosed in the prior art. It is the differences in fact in their respective properties which are determinative of nonobviousness. If the prior art compound does in fact possess a particular benefit, even though the benefit is not recognized in the prior art, applicant's recognition of the benefit is not in itself sufficient to distinguish the claimed compound from the prior art. In re Dillon, 919 F.2d 688, 16 USPQ2d 1897 (Fed. Cir. 1991).' In the instant case, the prior art suggests that the monoester can be converted via hydrolysis to the carboxylic acid (column 4 lines 18-24). Further, Anderson specifically teach that the R1 is hydrocarbon with preferably 1 to 3 carbons and can be propyl (column 4 line 44-48).

Although Applicants restate sections of the prior art and state that intact GSH is not delivered into the cell, the question at issue is not related to intact GSH since the claims are not to GSH. Further, it is noted that neither transport into cells nor administration is recited in the instant claims. The instant claims are drawn to compounds. Section 2123 II of the MPEP expressly states that alternative embodiments are prior art. In column 4 line 21 Anderson teach N-acyl GSH and then goes on to state that pharmaceutically acceptable salts of the above

compounds, which include N-acyl GSH, are within the scope of the present invention (column 4 lines 30-32). Thus Anderson expressly teach that the N-acyl GSH compounds and salts thereof are within the scope of the invention.

Although Applicants argue that minor changes in structure can result in changes and applicants discuss example 1 of the prior art, whether or not a change in structure can result in changes does not discredit the teachings of the prior art. Anderson teach (column 2 lines 40-50) that GSH alone may lead to increases in GSH levels. In example 1 (column 6-7) Anderson test a N-acetyl GSH monoethyl ester and GSH in a specific assay. Anderson teach that there is a slight effect when GSH itself is used (column 7 lines 17-18). Importantly, it is noted that Anderson does not teach in the examples any specific results with respect to the N-acyl GSH (column 4 line 24). Thus, without specific data for the N-acyl GSH there is not a basis to say that the N-acyl GSH does not work. Further, a single test using a single assay (as used in Anderson example 1) would not necessarily lead one to say that a compound is not effective in any and all assays. Although the teachings of Anderson may suggest that certain compounds may be more effective than others, section 2123 of the MPEP states:

Disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or nonpreferred embodiments. In re Susi, 440 F.2d 442, 169 USPQ 423 (CCPA 1971). "A known or obvious composition does not become patentable simply because it has been described as somewhat inferior to some other product for the same use." In re Gurley, 27 F.3d 551, 554, 31 USPQ2d 1130, 1132 (Fed. Cir. 1994)

In the instant case, in column 4 line 21 Anderson teach N-acyl GSH and then goes on to state that pharmaceutically acceptable salts of the above compounds, which include N-acyl GSH,

are within the scope of the present invention (column 4 lines 30-32). Thus Anderson expressly teach that the N-acyl GSH compounds and salts thereof are within the scope of the invention.

Although Applicants argue that is could not have been predicted that certain compounds would reach the cells, it is unclear what specific basis is used for such assertion. Anderson teach (column 2 lines 40-50) that GSH alone may lead to increases in GSH levels. In example 1 (column 6-7) Anderson test a N-acetyl GSH monoethyl ester and GSH in a specific assay. Anderson teach that there is a slight effect when GSH itself is used (column 7 lines 17-18). Importantly, it is noted that Anderson does not teach in the examples any specific results with respect to the N-acyl GSH (column 4 line 24). Thus, without specific data for the N-acyl GSH there is not a basis to say that the N-acyl GSH does not work. Further, a single test using a single assay (as used in Anderson example 1) would not necessarily lead one to say that a compound is not effective.

Although Applicants argue that the instant invention is unexpected and in direct contrast to the teachings of '825, in column 4 line 21 Anderson teach N-acyl GSH and then goes on to state that pharmaceutically acceptable salts of the above compounds, which include N-acyl GSH, are within the scope of the present invention (column 4 lines 30-32). Thus Anderson expressly teach that the N-acyl GSH compounds and salts thereof are within the scope of the invention. Further, Anderson teach (column 2 lines 40-50) that GSH alone may lead to increases in GSH levels. In example 1 (column 6-7). Anderson teach that there is a slight effect when GSH itself is used (column 7 lines 17-18).

Although Applicants state that the sole example in '825 is for an acetyl group and carbon length apparently does not effect compound activity, it is unclear how applicants assert that

carbon length does not effect activity yet at the same time assert that minor changes in structure can result in changes. In comparing the schematic shown in column 4 of Anderson, Anderson teach that N-acetyl GSH monoester is converted via hydrolysis to N-acyl GSH and then teach that via deacylation that GSH is formed. In example 1 (column 6-7) Anderson test a N-acetyl GSH monoethyl ester and GSH in a specific assay. Anderson teach that there is a slight effect when GSH itself is used (column 7 lines 17-18) and more dramatic effects when N-acetyl monoethyl ester is used (column 7 lines 1-10). Importantly, it is noted that Anderson does not teach in the examples any specific results with respect to the N-acyl GSH (column 4 line 24). Thus, without specific data for the N-acyl GSH there is not a basis to say that the N-acyl GSH does not work. However, since N-acetyl monoethyl ester and even GSH alone cause at least slight effects, there is a reasonable basis that N-acyl GSH would cause effects.

Although Applicants argue that the '825 patent teach the need for the monoester, it is unclear where such information is stated in '825. In column 4 line 21 Anderson teach N-acyl GSH and then goes on to state that pharmaceutically acceptable salts of the above compounds, which include N-acyl GSH, are within the scope of the present invention (column 4 lines 30-32). Thus Anderson expressly teach that the N-acyl GSH compounds and salts thereof are within the scope of the invention. Although the teachings of Anderson may suggest that certain compounds may be more effective than others, section 2123 of the MPEP states:

Disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or nonpreferred embodiments. In re Susi, 440 F.2d 442, 169 USPQ 423 (CCPA 1971). "A known or obvious composition does not become patentable simply because it has been described as somewhat inferior to some other product for the

same use." In re Gurley, 27 F.3d 551, 554, 31 USPQ2d 1130, 1132 (Fed. Cir. 1994)

Although Applicants argue that the acid form does not work, it is not clear what standard applicants use to assess 'does not work'. In column 4 line 21 Anderson teach N-acyl GSH and then goes on to state that pharmaceutically acceptable salts of the above compounds, which include N-acyl GSH, are within the scope of the present invention (column 4 lines 30-32). As discussed above, since N-acetyl monoethyl ester and even GSH alone cause at least slight effects, there is a reasonable basis that N-acyl GSH would cause effects. Further, it is noted that the instant claims are not drawn to GSH but to GSH derivatives.

Although Applicants argue that the modification suggested by the examiner would not provide a reasonable expectation of increasing intracellular GSH levels, the schematic shown in column 4 of Anderson, expressly teach that N-acyl GSH is converted via deacylation to GSH. Thus N-acyl GSH is the immediate precursor to GSH. If the level of the immediate precursor (i.e. N-acyl GSH) is increased, there is a reasonable basis that GSH levels will increase. Further, in column 4 line 21 Anderson teach N-acyl GSH and then goes on to state that pharmaceutically acceptable salts of the above compounds, which include N-acyl GSH, are within the scope of the present invention (column 4 lines 30-32). Thus based on the express suggestion of Anderson (i.e. 'salts of the above compounds are within the scope of the invention' (column 4 lines 31-33)) one would be motivated and have an expectation of success in making such compounds. The methods of making the compounds are well-known in the art.

Although Applicants state that the compounds of the instant invention are entirely different compounds, as discussed above although Applicants argue that the invention has a carboxylic residue while the art teach an ester (positions 2 and 2' of applicants nomenclature),

Anderson teach that the compounds are hydrolyzed (column 4 line 21) to form N-acyl GSH which is the de-esterified compound. In other words, the disclosure of 'N-acyl GSH' (column 4 line 21) includes various compounds that have been hydrolyzed. McMurry (bottom of page 825) teach that esters are hydrolyzed to form carboxylic acids. McMurry is cited to show that de-esterification (by hydrolysis) results in a carboxylic acid product. In particular the N-acyl GSH recited by Anderson (column 4 line 21) includes a carboxylic acid not an ester. Thus Andersons disclosure of 'N-acyl GSH' (column 4 line 21) and teachings of de-esterification (column 3 line 29,67) results in compounds which meet the claim limitations with regards to a carboxylic residue. Although Applicants argue that the invention has a propyl group while the art teach numerous residues (position 3 and 3'), Anderson specifically teach that the R1 is hydrocarbon with preferably 1 to 3 carbons and can be propyl (column 4 line 44-48). One would recognize that R1 being hydrocarbon with preferably 1 to 3 carbons represents a finite number of possible compounds. For example R1 can be methyl, ethyl, or propyl. It is noted that the instant rejection is not a 102 rejection, but is a 103 rejection. In the instant case, Anderson expressly suggest (i.e. 'preferably 1 to 3 carbon atoms' column 4 lines 44-48) propyl. Although Applicants argue that the invention has a hydrogen or acetyl while the art teach hydrogen (position 1 and 1'), applicants argument is unclear. Claim 1 recites that R can be H. Since the art teach that R is H the claim limitation is met. Section 2132.01 of the MPEP states that a species will anticipate a genus. Although this is a 103 situation, the claim limitation is met. Further, previously (3/12/08), Applicants elected the species where R is H (see claim 15). Since Anderson specifically R is H the claim limitations are met.

Although Applicants argue that the applicants have shown that an acetyl group is inactive and other lengths are of low activity or are toxic, it is noted that section 716.02(b) of the MPEP states that the burden is on the applicant to establish that results are unexpected and significant. In the instant case, Figures 1-3 appear to show results from a single compound which is depicted in figure 1 and called GSH-C4. Other compounds are discussed (i.e. GSH-C2, GSH-C6, GSH-C8, GSH-C12) however the structures of such compounds are net set forth. In particular, page 7 lines 23-25 merely refers to these compounds as derivatives which were prepared with similar methods. Absent structural information on what was actually tested by applicants, it cannot be determined if the results are commensurate in scope with the claims (see MPEP section 716.02(b) III and 716.02(d)).

Although applicants argue that certain compounds are of low activity, it is unclear which experiments were conducted and which compounds were tested to make such an assertion. On page 12 lines 8-12 it is stated that the best effects were for GSH-C4. It is unclear why this is deemed unexpected.

Section 716.02 of the MPEP states:

"Any differences between the claimed invention and the prior art may be expected to result in some differences in properties. The issue is whether the properties differ to such an extent that the difference is really unexpected. In re Merck & Co., 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986) (differences in sedative and anticholinergic effects between prior art and claimed antidepressants were not unexpected). In In re Waymouth, 499 F.2d 1273, 1276, 182 USPQ 290, 293 (CCPA 1974), the court held that unexpected results for a claimed range as compared with the range disclosed in the

prior art had been shown by a demonstration of "a marked improvement, over the results achieved under other ratios, as to be classified as a difference in kind, rather than one of degree." Compare In re Wagner, 371 F.2d 877, 884, 152 USPQ 552, 560 (CCPA 1967) (differences in properties cannot be disregarded on the ground they are differences in degree rather than in kind); Ex parte Gelles, 22 USPQ2d 1318, 1319 (Bd. Pat. App. & Inter. 1992) ("we generally consider a discussion of results in terms of differences in degree' as compared to differences in kind' . . . to have very little meaning in a relevant legal sense")."

In the instant case, when testing a group of compounds, one would expect that the compounds would not behave identically. If one were to expect all compounds to behave identically there would be no tests performed. Anderson teach that certain derivatives are known to show some toxic effects (column 2 lines 38-39). Further, Anderson expressly teach that the alkyl chain preferably contain 1 to 3 carbons (column 4 lines 44-47) which includes propyl. Since Anderson expressly teach that propyl is preferred, one would expect such compound to have more desirable properties.

Although applicants assert that certain compounds are toxic, it is noted that the effects are described as 'dependent on the dose administered' (page 11 lines 30-31). Further, certain compounds are described as 'not optimal' (page 12 line 6). It is not uncommon or unexpected for test compounds to show toxic effects, especially when the compounds are tested at relatively high concentrations. Further, applicants data refers to C12 (page 11 last paragraph). Although the actual structure of C12 is unclear, it is noted that Anderson expressly teach that the alkyl chain preferably contain 1 to 3 carbons (column 4 lines 44-47). Since Anderson expressly teach that

compounds with shorter carbon chain length are preferred, one would expect such compounds to have more desirable properties. Further, when testing a group of compounds, one would expect that some of the compounds are 'not optimal'. If one were to expect all compounds to behave identically there would be no tests performed.

It is noted that it appears that applicant may be attempting to show a criticality (compare MPEP 716.02(d) II) of the carbon chain length. However, Anderson expressly teach that the alkyl chain preferably contain 1 to 3 carbons (column 4 lines 44-47). Further, applicants specification state that GSH-C4 showed the best effects (page 12 lines 8-15). A showing of 'best effects' does not show that the range is 'critical'. In the instant case, when testing a group of compounds, one would expect that the compounds would not behave identically.

Conclusion

In the reply dated 7/14/09 applicants made no claim amendments. The 103 rejection is maintained from the previous office action. As such, all claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114 (compare MPEP section 706.07(b)).

All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under

37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RONALD T. NIEBAUER whose telephone number is (571)270-3059. The examiner can normally be reached on Monday-Thursday, 7:30am-5:00pm, alt. Friday, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cecilia Tsang can be reached on 571-272-0562. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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